

BEEES BELONGING TO THE FAMILY BREMIDÆ
TAKEN IN WESTERN OREGON,
WITH NOTES

BY H. A. SCULLEN

(Continued from page 76)

18. BREMUS FRIGIDUS (Smith)

Smith, 1854, p. 399, ♀, ♂, Hudson Bay (see Meade-Waldo, 1916, p. 469). (Redescribed: Franklin, 1912, p. 360.)

Frison, 1926, p. 135.

Range: Canada to New Mexico.

B. frigidus is rare throughout the entire United States. Only two specimens have been taken in Oregon. It appears to be confined in Oregon to the mountain regions in the western part of the state.

Grave Creek (Josephine County), ♀, VI-30, 1925 (H. A. S.), Oregon (Josephine County), ♀, VII-5, 1925 (H. A. S.).

19. BREMUS FLAVIFRONS (Cresson)

Cresson, 1863, p. 105, ♀, ♂, ♂, Fort Yukon, Alaska, Hudson Bay Territory, Kansas ("The latter is probably erroneous" Lutz and Cockerell, 1920, p. 515). (Redescribed: Franklin, 1913, p. 368.)

Frison, 1926, p. 135.

Range: Alaska to New Mexico and east to Colorado.

This species appears to be rare in Oregon and is possibly limited to the Coast Range and the lower altitudes in the Cascades. Only males have been taken in the state, with the exception of the one queen taken at Forest Grove by A. C. Burrill, May 21, 1919 (Frison, 1921, p. 146).

Alsea Mountain, ♂, VII-20, 1921 (H. A. S.); ♂, VIII-2, 1921 (H. A. S.). Bellfountain, ♂, VII-13, 1924 (H. A. S.); Cascadia, ♂, VIII-8, 1924 (H. A. S.).

20. BREMUS FLAVIFRONS var. AMBIGUUS (Franklin)

Franklin, 1911, p. 159, ♀, ♀, Sisson and Santa Cruz Mountains, California, Keyport, Washington. (Redescribed: Franklin, 1912, p. 376.)

Frison, 1926, p. 135.

Range: Washington, Oregon, and California.

Franklin (1912, p. 194), lists this variety for Oregon. He apparently assumed it was in Oregon, since it had been taken in both Washington and California. The only records from the state are those given below. This variety seems to be very rare.

Hugo, ♀, VII-1, 1925 (H. A. S.). Three Sisters region; Fingerboard Prairie (elevation 3825 feet), ♀, VIII-14, 1926 (H. A. S.).

21. *BREMUS FLAVIFRONS* var. *DIMIDIATUS* (Ashmead)

Ashmead, 1902, p. 129, ♀, ♂, Fox Point and Wrangell (Wickham), Alaska. (Redescribed: Franklin, 1912, p. 370.)

Frison, 1926, p. 135.

Range: Alaska to Oregon.

-This species has been taken in both the Coast and Cascade Mountains. It appears to be rare in the state.

Alsea, ♀, VI-4, 1921 (H. A. S.); ♂, VIII-2, 1921 (H. A. S.). Belknap Springs, ♂, VIII-10, 1925 (G. R. McG.). McKenzie Bridge (elevation 1329 feet), ♀, VIII-27, 1924 (H. A. S.). Sexton Mountain (Josephine County, elevation 2046 feet), ♂, VI-30, 1925 (H. A. S.). Three Sisters region; Frog Camp (elevation 4700 feet), ♀, VIII-15, 1926 (H. A. S.). Wahtum Lake (Mount Hood region, elevation 3700 feet), ♀, VIII-24, 1923 (H. A. S.).

22. *BREMUS CENTRALIS* (Cresson)

Cresson, 1864, p. 41, ♀, Fort Creek, California (Ulke); 1879, p. 231, Colorado.

The only record of this species from western Oregon is a male taken by M. M. Rheer at Wilson (Tillamook County), August 7, 1916, and a worker taken at Crater Lake, July 19 (Frison, 1927, p. 371).

23. *BREMUS APPOSITUS* (Cresson)

Cresson, 1878, p. 183, ♀, ♂, Colorado, New Mexico, Utah, Nevada. (Redescribed: Franklin, 1912, p. 285.)

Franklin, 1913, p. 288; Frison, 1927, p. 372, Crater Lake, Mount Hood.

Range: East to South Dakota (Frison, 1926, p. 136), and from British Columbia south to the Mexican border.

Occurs throughout western Oregon from 174 feet to about 4650 feet. Common in the Willamette Valley. Less common along the coast.

Albany, ♀, VII-8, 1921 (H. A. S.); ♂, VII-8, 1921 (H. A. S.), to VIII-10, 1917 (A. H. A.). Alsea, ♀, VII-29, 1922 (H. A. S.), to VIII-2, 1921; ♂, VIII-5, 1921 (H. A. S.), to VIII-18, 1917 (A. H. A.). Alsea Mountain, ♂, VIII-2, 1925 (H. A. S.). Corvallis, ♀, III-11, 1926 (H. A. S.), to IX-28, 1905 (Thomson); ♂, VII-4 (W. J. C.), to VIII-3, 1900, ♀, V-27, 1906 (Farrell), to VIII, 1906 (Buchanan). Hillsboro, ♀, VII-8, 1905 (Cate), Kings Valley (Benton County), ♀ and ♂, VII-20, 1905 (Vincent). McKenzie Pass (elevation 4650 feet); ♂, VIII-10, 1925 (G. R. McG.). Medford, ♀, VI-23, 1906 (Bennett); ♀, VII-25, 1906 (Bennett). Monroe, ♂ and ♀, VII-25, 1905 (Nichols). Portland, ♂, VIII-27, 1907. Salem, ♂, IX-24, 1921 (H. A. S.). Tangent, ♀, VII-7, 1922 (H. A. S.).

24. BREMUS FERVIDUS (Fabricius)

Fabricius, 1798, p. 274 (Apis), North America. (Redescribed: Franklin, 1912, p. 388.).

B. pennsylvanicus (Viereck) *et al.*, 1904, p. 98, Condon, Oregon (Cordley).

Range: Southern Canada and the United States, with the possible exception of the extreme southeast.

B. fervidus is not uncommon in the lower altitudes of western Oregon and has been taken as high as 4000 feet.

Albany, ♂, VIII-10, 1917 (A. H. A.). Alsea Mountain, ♂, VIII-2, 1925, and VIII-5, 1924 (both H. A. S.). Corvallis, ♂, VII-17, 1925 (H. A. S.), to VII-29, 1914 (L. G. Gentner). Mary's Peak (elevation 4000 feet), ♂, VII-7, 1914 (A. L. L.). Peedee, ♂, VI-20, 1905 (Vincent), Sherwood, ♂, VII-29, 1906 (Hays).

25. BREMUS CALIFORNICUS (Smith)

Smith, 1854, p. 400, n. 57, ♀, (not the ♂), California. (Redescribed: Franklin, 1912, p. 393.)

Cresson, 1879, p. 230, Oregon; Viereck *et al.*, 1904, p. 99, Corvallis and Mount Hood, Oregon; Franklin, 1912, p. 398, Oregon; Frison, 1927, p. 373, Olney, Newport, Coleston, Corvallis, Mary's Peak (Benton County), Oregon.

Range: Alaska to Lower California and east to the Rocky Mountains. *B. californicus* appears to be confined to the lower valleys. It is one of the more common species in the Willamette Valley and along the coast.

Albany, ♀, VII-31, 1917 (M. C. Lane); ♂, VIII-10, 1917 (A. H. A.). Alsea, ♀, VII-1, 1925 (H. A. S.), to VIII-18, 1917 (A. H. A.). Amity, ♂, VII-13, 1900 (Smith). Bellfountain, ♀, VII-13, 1924 (H. A. S.). Coos Bay, ♀, VII-3, 1926 (H. A. S.). Corvallis, ♀, IV-3, 1906 (Farrell), to IX-24, 1906 (Sprague); ♂, VIII, 1907, to IX-4, 1921 (H. A. S.); ♀, VI-20, 1924 (H. A. S.), to VIII-30, 1907. Eugene, V-23, 1922 (H. A. S.). Forest Grove, ♀, V-8, 1917 (M. C. Lane), to VII-22, 1921 (L. P. R.); ♂, VII-22, 1921 (L. P. R.); ♀, VII-15, 1921 (L. P. R.), to IX-17, 1915 (L. P. R.). Grants Pass, ♀, VII-1, 1925 (H. A. S.). Medford, ♀, VI-25, 1906 (Bennett). Milwaukee, ♀, IX, 1907 (Hazel Allen). Peedee, ♀, VII-20, 1905 (Vincent). Portland, ♀, VII-19, 1907 (Hazel Allen). Salem, ♀, IX-24, 1921, and IX-28, 1925 (both H. A. S.). Shedd, ♀, VIII-5, 1924 (H. A. S.). Sherwood, ♀, VIII-9, 1906.

26. BREMUS CALIFORNICUS var. CONSANGUINEUS
(Handlirsch)

Handlirsch, 1888, p. 239, Vancouver Island and mainland, British Columbia.

Range: Washington, Oregon, and California.

This rare variety has been taken only at Ashland and Corvallis.

Ashland, ♂, VII-2, 1926 (H. A. S.). Corvallis, ♂, VII-25 and IX-4, 1925 (D. A. W.).

27. BREMUS CALIFORNICUS var. DUBIUS (Cresson)

Cresson, 1863, p. 97, western Kansas (Norton).

Range: Oregon, Washington, California, and Colorado.

The only records of this variety for western Oregon are two queens taken by the writer April 24, 1926, and May 10, 1925, at Corvallis.

1. PSITHYRUS INSULARIS Smith

Smith, 1861, p. 155 (*Apathus*), ♀, Vancouver Island, British Columbia (Lyll). (Redescribed: Franklin, 1912, p. 455.)

Bombus interruptus Green, 1858, p. 11, ♀, Oregon; Viereck *et al.*, 1904, p. 100, ♂, ♀, Corvallis (Cordley); Franklin, 1912, p. 457, Oregon; Sladen, 1915, p. 84 (records taking a *P. insularis* in the nest of *Bremus flavifrons*); Frison, 1927, p. 374, Newport, Oregon.

Range: Alaska to Oregon, Colorado, and New Mexico (high altitudes), east to Nebraska.

The species seems to be rare in western Oregon. It ranges from sea-level to about 6000 feet elevation.

Coos Bay, ♂, VI-16 to VII-3, 1926 (both H. A. S.). Corvallis, ♀, 1898. Cascadia, ♂, VIII-2, 1924 (H. A. S.). Mary's Peak (Benton County, elevation 4000 feet), ♂, VIII-2, 1926 (H. A. S.). Newport, ♀, V-15 and V-30, 1926 (both H. A. S.). Sand Mountain (Santiam Forest, elevation about 5475 feet), ♀, VI-20, 1906. Triangle Lake (Lane County), ♀, V-24, 1925 (H. A. S.).

2. PSITHYRUS CRAWFORDI Franklin

Franklin, 1912, p. 464, ♀, ♂, Placer County, California, Oregon. Frison, 1926, p. 137; 1927, p. 374, Newport, Oregon.

Range: Probably southwestern United States.

No locality is given for the type taken in Oregon. The species has been taken in only three recorded localities in the state. Apparently it is a coastal form. One unlabeled queen is in the collection at the Oregon State Agricultural College.

Alea, ♂, VIII-2, 1921 (H. A. S.). Waldport (Lincoln County), ♂, VI-5, 1925 (H. A. S.). Coos Bay, ♀, VII-3, 1926 (H. A. S.); ♂, VI-16 to VII-20, 1926 (both H. A. S.).

Bequaert and Plath (1925, p. 274), suggest that "the host of *P. crawfordi* is either *Bremus vosnesenskii* or *B. occidentalis*."

3. PSITHYRUS SUCKLEYI Green

Green, 1860, p. 169, ♀, Puget Sound (Suckley). (Redescribed: Franklin, 1912, p. 471.)

Bequaert and Plath, 1925, p. 275, Mary's Peak (Benton County), Oregon (W. J. Chamberlin, collector); Frison, 1926, p. 137; 1927, p. 373, Mount Hood, Oregon.

Range: British Columbia to California and east to Colorado.

The localities from which this species is recorded indicate it is more common at altitudes of about 4000 feet. Males were abundant August 14, 1926, on *Rudbeckia occidentalis* in the Three Sisters region at an elevation of 3825 feet.

Albany, ♂, VIII-10, 1917 (A. H. A.). Alesa, ♂, VIII-10 and VIII-18, 1917 (A. H. A.). Corvallis, ♀, IV-25, 1926 (H. A. S.), ♂, VIII-10, 1917 (A. H. A.). Graham (?), ♀, VII-14, 1906. Mary's Peak (elevation 4000 feet), ♀, V-30, 1924 (H. A. S.), ♂, VIII-2, 1926 (H. A. S.). Waldport, ♂, VI-5, 1925 (H. A. S.). The Three Sisters region; Deer Butte (elevation 4650 feet), ♂, VIII-9, 1926 (H. A. S.); Fingerboard Prairie (elevation 3825 feet), ♀, and ♂, VIII-14, 1926 (H. A. S.); Scott Lake (elevation 4650 feet), ♀, VIII-7, 1926 (H. A. S.); ♂, VIII-2 to VIII-15, 1926 (H. A. S.).

4. PSITHYRUS FERNALDÆ Franklin

Franklin, 1911, p. 164, ♀, Orono, Maine; Amherst, Massachusetts; Webster, Durham, Crawfords, Mount Washington and Conway, New Hampshire; Ithaca, New York; Mount Rainier, Washington; Kaslo and Metlakatla, British Columbia; Nushagak and Sitka, Alaska. (Redescribed: Franklin, 1912, p. 473.)

Frison, 1922, p. 326, ♂, Corvallis, Oregon; 1926, p. 137; 1927, p. 374, Waldport, Newport, Marshfield, Oregon.

Range: Alaska, Canada, and the United States south to the upper Mississippi Valley, Colorado, and northern California, east to the Atlantic Ocean.

This species appears to be more common in the coast mountains and lower Cascades than elsewhere.

Alesa, ♀, VI-4, 1921 (H. A. S.); ♂, VIII-18, 1917 (A. H. A.). Brookings, ♂, VII-8, 1925 (H. A. S.). Sexton Mountain (Josephine County, elevation 2046 feet), ♂, VI-30, 1925 (H. A. S.). Triangle Lake (Lane County), ♂, V-24, 1925 (H. A. S.). Wahtum Lake Mount Hood region elevation 3700 feet, ♂, VII-24, 1923 (H. A. S.). Waldport, ♂, VI-5, 1925 (H. A. S.).

5. PSITHYRUS FERNALDÆ var. WHEELERI

(Bequaert and Plath)

Bequaert and Plath, 1925, p. 265, ♀, ♂, holotype, M. C. Z., 15,280, female; Oregon, Benton County, Mary's Peak, July, 1916 (W. J. Chamberlin, collector); paratype, female, Cala., Sierra Nevada (Edwards, collector). Allotype and paratype, males, Cala., Alta Meadow, Sequoia National Park, 9000 feet, August 23, 1917 (Cornell University Biological Expedition, W. M. Wheeler collector).

Frison, 1927, p. 374. Mount Hood, Waldport, Marshfield.

Except for the types listed above, the following are the only records for Oregon. The variety seems to be rare, but widely distributed over western Oregon.

Alsea, ♂, V-29, 1926 (H. A. S.). Coos Bay, ♂, VI-20 and VII-20, 1926 (both H. A. S.). Mary's Peak (Benton County, elevation 4000 feet), ♂, VIII-2, 1926 (H. A. S.). Neah-Kah-Nie Mountain (Tillamook County), ♂, VI-29, 1919 (L. P. R.). Newport, ♂, V-15, 1926 (H. A. S.). Three Sisters region; Fingerboard Prairie (elevation 3825 feet), ♂, VIII-14, 1926 (H. A. S.); Frog Camp (elevation 4700 feet), ♂, VIII-15, 1926 (H. A. S.); Scott Lake (elevation 4650 feet), ♂, VIII-7, 1926 (H. A. S.).

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RICE BUGS

During past years, and particularly during 1926 and 1927, there have been numerous reports relative to the injury to rice by certain so-called rice bugs. These insects appear in the rice fields just as the heads of grain are beginning to form and feed upon the kernels causing deformation and spotting known as "pecky rice." Two species received from F. Brunk, Cajeme, Sonora, Mexico, on September 20, 1927, were determined by E. P. Van Duzee of the California Academy of Sciences as *Soluba insularis* Stål and *Mormidea prominula* Dallas. They are closely related genera of the family *Pentatomidæ*. The requests from the rice growers of Mexico for assistance in the control of these and other pests cannot possibly be met from this long distance, regardless of our desire to help them. Rather it will be necessary to have an entomologist at hand during much of the year or at least during the growing period of the crop to adequately work on the life history of the insects and advise as to control measures.—E. O. Essig.